AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-136

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-136.01
AMSAT Forum at Dayton - News of Amateur Radio in Space

AMSAT News Service Bulletin 136.01
>From AMSAT HQ SILVER SPRING, MD.
May 16, 2010
To All RADIO AMATEURS
BID: $ANS-136.01

This weekend was the Dayton Hamvention and one of the features included the 2010 AMSAT Forum on Saturday, May 15 from 11:15 am to 1:30 pm. See the list of topics introduced by AMSAT Board Member Alan Biddle, WA4SCA:

Barry Baines, WD4ASW, AMSAT President, presented the "AMSAT Status Report" as a mid-year update about  what is happening within AMSAT. Barry highlighted current activities within AMSAT and discusses some of the challenges facing the organization.

Drew Glasbrenner, KO4MA, AMSAT VP Operations, told attendees about "AMSAT Satellite Operations and International Satellite Operations". Drew discussed operational AMSAT satellites and updates on new and future International Satellites.

Mike Forsythe, AC2V, Team Leader of the successful K4T DXpedition spoke about "Integrating Satellite Operations into DXpeditions". Mike discussed how to have satellite operations as a major part of DXpeditions,involving youth and making it all work on green power!

Gould Smith, WA4SXM,AMSAT VP User Services, and AMSAT Project Manager for ARISSat-1 spoke on "Getting ARISSat-1 Ready to Fly". Gould's talk covered the current status of the satellite project, testing and the delivery of two satellites to Russia in July.

Alex Harvilchuck, N3NP, Systems Engineer with IBM, and the NextGen CubeSat Program Manager reported progress on the "NextGen CubeSat Program Update". A team of Binghamton University engineering students have been modifying the power systems from ARISSat-1 for use in a 3U CubeSat, with a U/V linear transponder, for AMSAT.

Watch for more AMSAT news from Dayton in future ANS reports!

[ANS thanks AMSAT Team at Dayton for the above information]

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SB SAT @ AMSAT $ANS-136.02
Reminder: The Dayton $5000 Challenge Extended to September 1

AMSAT News Service Bulletin 136.02
>From AMSAT HQ SILVER SPRING, MD.
May 16, 2010
To All RADIO AMATEURS
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The Dayton Amateur Radio Association (DARA) will match one-for-one any donations made to AMSAT between now and September 1, 2010 up to a maximum of $5,000. Please support "Getting AMSAT Back into Space" and help us raise the funds needed for our next satellite project.

AMSAT's Project "Fox" is a cubesat that will provide a 2 meter-70 Centimeter FM transponder that will match the ground performance of AO-51. You can send your donation to: AMSAT, 850 Sligo Ave #600, Silver Spring MD 20910. If you prefer, you can call Martha at the AMSAT office (US call toll free at 888-322-6728 or 301-589-6062) and contribute with a credit card.

We will be accepting 'Getting AMSAT Back into Space' donations at various hamfests where AMSAT has a presence, including the Hamvention. You can also make contributions online in the AMSAT Store: http://www.amsat-na.com/store/donation.php

[ANS thanks Martha at the AMSAT Office for the above information]

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SB SAT @ AMSAT $ANS-136.03
Two More Astronaut Hams

AMSAT News Service Bulletin 136.03
>From AMSAT HQ SILVER SPRING, MD.
May 16, 2010
To All RADIO AMATEURS
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The ARISS Status Report this week says two more astronauts have received their Amateur Radio Licenses.

Ron Garan of Expedition 27 completed testing for his amateur radio license and has been issued KF5GPO.

Kevin Ford has been issued the callsign of KF5GPP and is currently training  for a future expedition crew assignment.

Andre Kuipers had an ISS amateur radio review session on May 4 in preparation for his tour on the ISS as part of the Expedition 30 crew.

Don Pettit will join him as part of that crew.

[ANS thanks ARISS for the above information]

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SB SAT @ AMSAT $ANS-136.04
IARU Publishes Revised Requirements for the Amateur Satellite Service

AMSAT News Service Bulletin 136.04
>From AMSAT HQ SILVER SPRING, MD.
May 16, 2010
To All RADIO AMATEURS
BID: $ANS-136.04

In preparation for frequency allocation negotiations the IARU has published a full specification at http://www.iaru.org/ac-09spec.pdf

Items of interest to the Amateur Satellite Service include:

+ An allocation for the Amateur Satellite Service is sought in the 50-54 MHz range to bridge the gap between 28 MHz and 144 MHz.

+ The Amateur Service requires retention of the existing allocations in the 420-450 MHz band and opposes new uses by other services or low-power devices except where sharing or compatibility studies have been satisfactorily concluded. Because of the crowding of the existing band 435-438 MHz with unmanned amateur satellites and manned space stations, it is desirable to study expansion of the band.

+ The Amateur Service seeks retention of the band 1240-1300 MHz. The Amateur-Satellite Service seeks retention of the band 1260-1270 MHz and deletion of the "Earth-to-space only" restriction.

[ANS thanks Trevor, M5AKA for the above information]

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SB SAT @ AMSAT $ANS-136.05
Venus Bound UNITEC-1 Amateur Radio Forum Web Pages Established

AMSAT News Service Bulletin 136.05
>From AMSAT HQ SILVER SPRING, MD.
May 16, 2010
To All RADIO AMATEURS
BID: $ANS-136.05

As reported previously, on May 17 Japan's Space Agency JAXA plans to launch its Planet-C Venus Climate Orbiter "AKATSUKI" mission to Venus. Also aboard will be UNITEC-1, a 15 kg, 35cm cubed nano-satellite developed by twenty-two universities and colleges of UNISEC (University Space Engineering Consortium).

UNITEC-1 be inserted into a Venus encounter trajectory and will become the world first university satellite which goes beyond Lunar orbit. The main mission of UNITEC-1 is to perform technological experiments of on-board computers and test long-range, inter-planetary communication using amateur radio frequencies:

Downlink Frequency: 5840.000MHz, band width 20MHz
Transmission Power: 4.8W/antenna, 9.6W total

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Antenna:                2 Microstrip patch antennas
Modulation:             AFSK/FM 1200bps during LEO flight
                     CW 1bps during Interplanetary flight
Callsign:            JQ1ZUN
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UNITEC will rely heavily on amateur radio stations around the world to receive its microwave downlink signal. The team has created an Amateur Radio forum which is planned to evolve into a site for the latest information as well as provide a path to upload received data. See: http://sites.google.com/site/unitec1ops/amservice

Software to aid in the tracking of the satellite and decoding the received telemetry is posted at:
http://sites.google.com/site/unitec1ops/swdownload
This includes the Initial Orbit Estimation Sheet, Unitec 1 Orbit Estimation, and Receiving Data Analyzer

A forum to upload received UNITEC-1 data is under construction at:
http://sites.google.com/site/unitec1ops/amservice/amuploader

Many additional details are available on the UNITEC-1 Operations page:
http://sites.google.com/site/unitec1ops/

The UNITEC-1 team will use a special version of Spectran, that produces a log file of all the frequency peaks found. This will allow them to do an offline analysis. You can download this special version of Spectran from I2PHD, Alberto's site:
http://www.weaksignals.com

[ANS thanks the UNITEC-1 Team and Alberto, I2PHD for the above information]

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SB SAT @ AMSAT $ANS-136.06
AMSAT-India Reports Several University Cubesats Under Development

AMSAT News Service Bulletin 136.06
>From AMSAT HQ SILVER SPRING, MD.
May 16, 2010
To All RADIO AMATEURS
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AMSAT-India attended the first Indian Small Satellite Systems Conference at ISRO Bangalore. VU2POP reported that 26 univerities in India have established amateur radio clubs and are in various stages of Amateur Radio Satellite development.

VU2POP wrote, "As of now most of the university satellites are either digital with only beacon downlink and no voice transponder. AMSAT India has two linear tranponders ready. We are asking ISRO for a higher orbit to cover a larger foot print and longer pass duration for future AMSAT-India satellites".

As a reminder, on VO-52's 5th Birthday the HAMSAT team and ISTRAC has requested user feedback from the Amateur Radio community. Send your feedback to Mani, VU2WMY at wmy@isac.gov.in or vu2wmy_mani@yahoo.com.

[ANS thanks AMSAT-India Technical Director, Pop VU2POP for the above information]

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SB SAT @ AMSAT $ANS-136.07
Vietnamese CubeSat Under Development

AMSAT News Service Bulletin 136.07
>From AMSAT HQ SILVER SPRING, MD.
May 16, 2010
To All RADIO AMATEURS
BID: $ANS-136.07

News has been received from Vu Trong Thu, XV9AA, in Hanoi of a Vietnamese 2U CubeSat under development. Thu wrote, "We hope to complete the F-1 satellite by the end of 2010 and launch it to Sun-synchronous, 98 deg inclination LEO. At the moment we are negotiating with several launch providers to find a way into orbit but the high launch cost is really an issue. If we can solve the budget issue, we'll be ready to launch our cubesat in 2011."

The satellite carries several low-resolution cameras to take photos of the Earth along with temperature and magnetic sensors to study space environment. Some of the project goals for the F-1 satellite include:
+ Students to learn about aerospace engineering.
+ Demonstrate the application of COTS products to reduce cost and time developing a small satellite.
+ Survive in space environment for at least a year.

The satellite will use amateur VHF and UHF frequencies. The IARU has coordinated at downlink frequency of 437.485 MHz to support a 1200 baud AX.25 telemetry link. The F-1 satellite will also transmit a beacon using a modulated Morse code audio signal on FM carrier when it is not in range of the earth station in Hanoi. In case of emergency, DTMF tones can be used to control the satellite to some extent. The satellite also carries a COTS transceiver (using UHF frequency) from Microhard Systems to experiment with higher data transmission speed.

A breadboard model of the satellite has been built and the communication link has been tested at a range of 50km. The team is now working on the Engineering Model of the satellite and more tests are planned including shock, vibration and thermal tests.

The F-1 team leader Thu can be reached at: thuvt@fpt.com.vn
Their web page is at: http://fspace.fsoft.com.vn/

[ANS thanks Thu, XV9AA for the above information]

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SB SAT @ AMSAT $ANS-136.08
Satellite Shorts From All Over

AMSAT News Service Bulletin 136.08
>From AMSAT HQ SILVER SPRING, MD.
May 16, 2010
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+ This week the ISS activated SSTV over Europe for the MAI-75 experiment. If you have received images please send them via the ARISS SSTV submission page: http://www.amsat.org/amsat/ariss/SSTV/submit.php
Also see the ARISS SSTV gallery page:
http://www.amsat.org/amsat/ariss/SSTV/

+ NASA Science News says a unique sky view will be visible as Venus
  and the Moon are gathering for a sunset conjunction on Sunday,
  May 16th. On that night, the ISS is going to be flying over many
  US towns and cities. And if space shuttle Atlantis launches on
  schedule people could witness a rare meeting of the shuttle, sta-
  tion, Venus and the Moon. Details and observing tips may be found
  in the story from Science@NASA: http://tinyurl.com/334954k

+ Congratulations to Bobby, KF4GTA for being selected to participate
  in NASA's STS-132 Tweetup from the final launch of the space shuttle
  Atlantis which took place on Friday, May 14. Bobby's tweets were
  published at: http://www.twitter.com/kf4gta

+ UniverseToday has posted a very interesting video hosted by Astro-
  naut Mike Massimino about what he describes as, "This is the deepest,
  darkest secret about spaceflight. People always ask us about UFOs
  and aliens, and we've got nothing for them. But they don't know about
  this!" Watch at: http://tinyurl.com/25gdzxq  (UniverseToday.com)

+ The Camb-Hams DX'Pedition to Harris 2010 operated on satellites. They
  have a video of us assembling the HyGain 2m and 70cm OSCAR antennas
  on a 2 inch mast at about 12 feet. Watch - How To Build Satellite
  Antennas in 30 Seconds at http://tinyurl.com/23mmvww  (SouthGate ARC)

+ Henk Hamoen PA3GUO has made available some videos about Amateur Radio
  CubeSats. See: http://tinyurl.com/2gybunt (SouthGate ARC)

+ A YouTube video shows how to use WebSDR which enables you to receive
  the LF and HF amateur radio bands via a web controlled receiver that
  supports multiple users. WebSDR is a free website that anyone can use
  to receive short wave ham radio. It will function on SSB and CW modes.
  Watch at: http://tinyurl.com/23ol4j7 (Please click the quality button
  and raise it to 720p before making the video full screen to see all
  the details. The WebSDRs can be found on-line at: http://www.websdr.org.

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining donors
to AMSAT Project Funds, will be eligible to receive additional benefits.
Application forms are available from the AMSAT Office. And, with that
please keep in mind the radio amateur who was LED to believe it was a
good time for this humor: His friends were shocked and their stomach
did flip-flops but he soon rectified the situation and that phase soon
passed. We were no longer choked up and encountered no more impedance
to our progress.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM